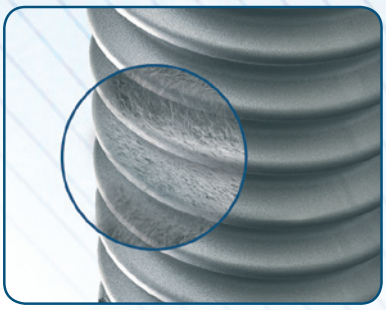
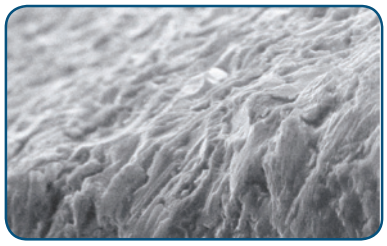
datasheet

SURFACE CONDITION

The implant is sandblasted with fine particles of alumina oxide Al2O3 (75 µm) and its cervical portion of less than 1-mm high remains smooth (machined surface). When the implant is sandblasted, surface roughness is larger than when the surface is machined. These surface characteristics improve better bone/implant contact and reduce the healing times. Since the very pure alumina particles (99.7% Al2O3) are biocompatible, surface passivation in acid baths is not necessary (contrary to other manufacturers who use glass beads).





Surface condition is one of the main factors effecting osseointegration (Albrektsson and Coll, 1981). According to scientific literature, an extremely smooth surface can have an opposite effect on osseous formation, whereas if the surface is too rough, osseous stimulation will not necessarily be improved, which may result in leaks of metal or organic particles.

Implant Surface beyond micron roughness

Experimental and clinical knowledge of surface topography and surface chemistry.

Authors: A. WENNERBERG – T. ALBREKTSSON
Support: Applied Research to Osseo-integration 2006 vol. 5, p. 40 - 44 IMPLANT 2006 – VOL12 – No.3 – pages 195-201

Purpose: for many years, surface condition was considered as an important aspect of implant osseointegration. A more detailed study of surface condition and of its influence on the osseous response may guide implant development and surgery. The roughness (Ra) of slightly rough implants ranges from 0.5 to 1.0 µm, (Bränemark implants, 3i and Astra Tech). Medium rough surfaces range from 1.0 to 2.0 µm and include nearly all modern implants. Finally, rough implants have an Ra of over 2.0 µm. They are represented by spray formed titanium elements.

Results : the strongest osseous response can be observed on medium rough surfaces, but clinical evidence of the superiority of such implants is less convincing.
Generally speaking, these clinical studies suggest that there is no significant difference between slightly rough implants and medium rough implants.

Conclusion : according to the authors, the interest for new types of oral implants will move away from medium rough surfaces to nanosurfaces or implants with modified physical properties. The implant retainer may be explained by a moderate micro surface combined with particular nanotopography and surface bioactivity, even though the respective significance of these last two has not as yet been evaluated separately.

EASY IMPLANT
72, Rue Cassiopée - Z.A.C. Altaïs - 74650 CHAVANOD (France)
Phone : +33 (0) 450 450 498 - Fax : +33 (0) 450 456 899
commercial@easyimplant.com - www.easyimplant.com

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data sheet

SURFACE CONDITION

A retrospective analysis of sandblasted, acid-etched implants with reduced healing times with an observation period of up to 5 years.

Authors: Nelson K (katja.nelson@charite.de), Semper W, Hildebrand D, Ozyuvaci H
Department of Oral and Maxillofacial Surgery, Charite-Campus Virchow Clinic, Augustenburger Platz 1, 13353 Berlin, Germany.
Medium: Int. J Oral Maxillofacial Implants. 2008 Jul-Aug;23(4):726-32

Purpose : to evaluate the success rate of 2 different systems with a sandblasted surface and an acid-etched surface with reduced healing times.
One hundred and seventeen patients were included in the evaluation, for an average observation period of 3.75 years (24 to 61 months). 532 implants were inserted. The healing time was reduced after a 6-week period of osseointegration in the mandible and a 12-week period in the maxillary, 235 involving female patients and 297, male patients; 448 implants were inserted into the maxillary and 84 into the mandible. The implants were inserted using a torque of 35 N.cm as per Buser criteria and other. Survival was analyzed using the Kaplan-Meier method.

Results : three implants were lost before the prosthesis was connected to 3 patients.
Survival analyses reveal a complete success rate of 99.4 % in 5 years. No implant was lost after connection to the prosthesis. The study did not show any significant association between implant type (P = .185), sex (P = .99) or jaw (maxilla/mandible; P = .06) and implant survival in the study.

Conclusion : from the data found in the survey, the conclusion of the study is that with sandblasted or acid-etched implants, prostheses can be reconstituted after a 6-week recovery at mandible level and a 12-week recovery at maxillary level with a highly foreseeable chance of success.

• Using any acid attack process may be dangerous, because the diffusion of hydrogen or chlorine atoms may in the long term corrode insufficiently rinsed areas, resulting in the implant eventually becoming more fragile.

• This phenomenon is even worse on sanded surfaces, as surface defects are enhanced by the sanding process, thus rendering the cleaning of micro porosities much more difficult. Contamination is always possible.

**This explains the decision made by Easy Implant®
not to treat its implants with acid.**

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